

FIGURE 1

```
graph TD
    subgraph 200 [WEB SERVER]
        subgraph 301 [MEMORY]
            201[TROUBLE-SHOOTER]
        end
        303[SECONDARY STORAGE DEVICE]
        304[VIDEO DISPLAY]
        305[INPUT DEVICE]
        306[CPU]
        307[NETWORK DRIVER/CARD]
        301 --- 303
        301 --- 304
        301 --- 305
        301 --- 306
        301 --- 307
    end
    205[CUSTOMER PC] <--> 307
```

FIGURE 2

FIGURE 2

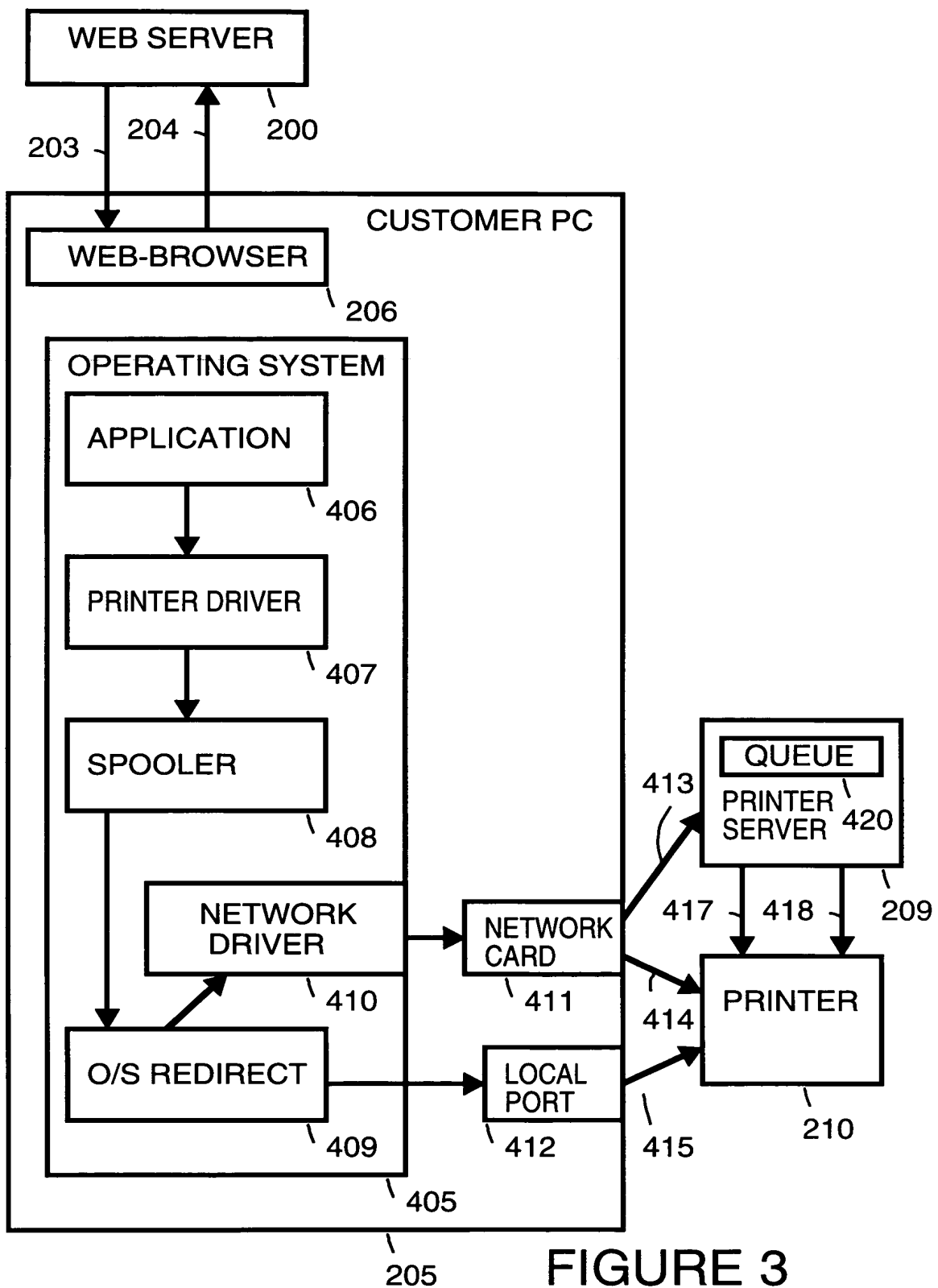


FIGURE 3

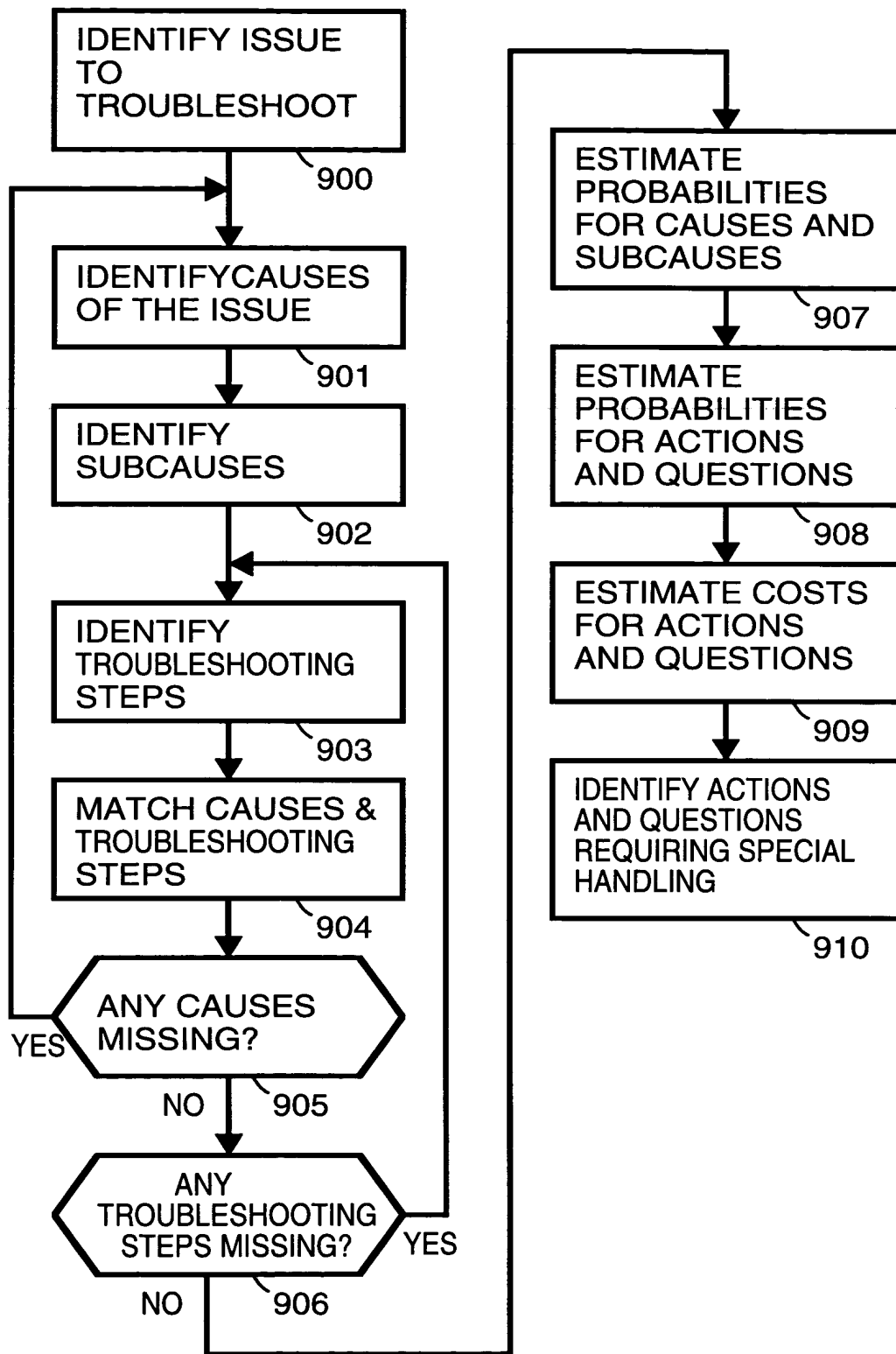


FIGURE 4

Main window

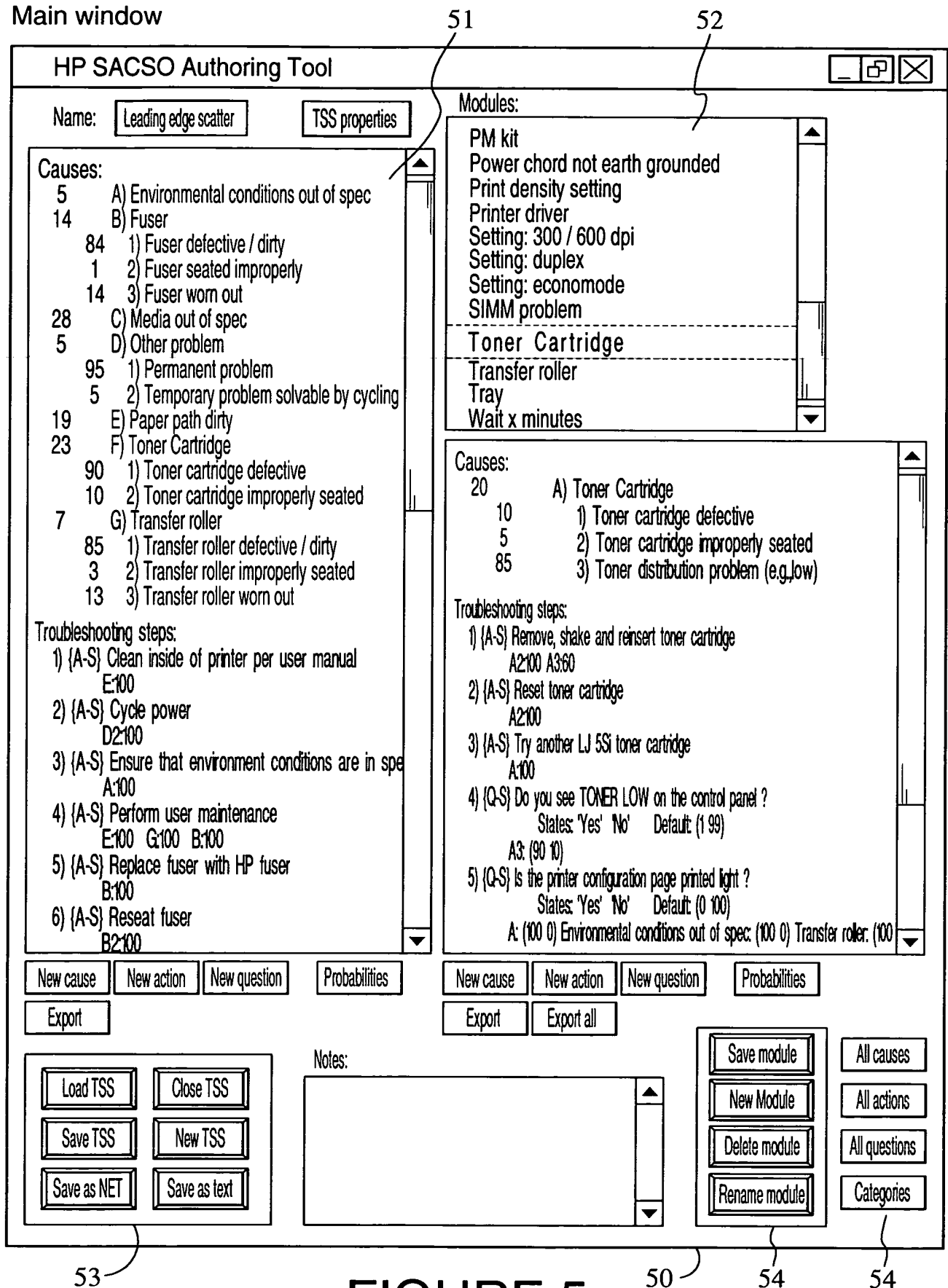


FIGURE 5

Cause editor

Cause Editor [X]

Name: 61

62 ☐ Subcause of: [v]

Probability: 63

64

65

66 ☒ This cause is a consumable (toner cartridge, fuser, transfer roller or feed and separation rollers).

67 ☐ Automatic data collection possible.

68 ☐ Can be fixed by rebooting the PC.

69 ☐ Can be fixed by power cycling the printer.

Dependency of environment:

Printer
Operating system
Printer driver
Network
Paper handling devices

 78

Name of cause given to customers:

79

77

60

FIGURE 6

Cause probability editor

Cause Probability Editor

Select level and causes:

- Environmental conditions out of spec
- Fuser
- Fuser defective / dirty
- Fuser seated improperly
- Fuser worn out
- Media out of spec
- Other problem
- Permanent problem
- Temporary problem solvable by cycling
- Paper path dirty
- Toner Cartridge
- Toner cartridge defective
- Toner cartridge improperly seated

Set probabilities:

Fuser defective / dirty	84.29
Fuser seated improperly	1.429
Fuser worn out	14.29

Normalize

OK Cancel

71

72

70

FIGURE 7

Cause category editor

Categories of cause

Select categories that the cause falls into:

- Operating System
- Consumables
- Driver
- Customer Expectat
- Printer
- Software
- Cables
- Settings
- Network
- Hardware
- Application
- Environment

OK Cancel

80

FIGURE 8

Action editor

✕

Name:

Perform user maintenance

Type:

Solution action
Information gathering action

Causes "solved" by the action:

Paper path dirty
Transfer roller
Fuser

Add cause Remove cause

With probability:

100
100
100

☐ Action is forced as number:

0

☐ Workaround.

Edit costs, ...

96

Explanation

95

Extra Information

97

☐ Reverse action - tests a single component in different environment

Probability that it works if none of the above causes are present:

0

Remove action

OK Cancel

919293949695979899100

FIGURE 9

Extra information editor for actions

Extra information for actions

Perform user maintenance

This action includes the following actions:

- Clean inside of printer per user manual
- Reseat fuser
- Reseat transfer roller

Add actions Remove actions

This action is mutually exclusive with the following actions:

Add actions Remove actions

☒ This action can only be performed after a specific question has been answered.

Question: Is the user maintenance due? ▼

State: Yes ▼

☐ This action can only be performed after a specific question has been answered.

Question: Did you recently perform the user mainten ▼

State: Yes ▼

☐ If this action is performed, the following question should be fixed in the specified state.

Question: Did you recently perform the user mainten ▼

State: Yes ▼

☐ This action includes moving a component, and will also solve the problem if this component was seated improperly.

Component (seated improperly): ▼

☐ The component should not be moved back in place afterwards.

Dependency of environment:

- Printer
- Operating system
- Printer driver
- Network
- Paper handling devices

☒ This action includes power cycling the printer.

☐ This action includes rebooting the customer's PC.

☐ This action is irreversible.

☐ Automatic data collection possible.

OK Cancel

100 101 102 103 104 105 106 107 108 109 118 119

FIGURE 10

Action probability editor

Probability of action ☐

Assuming that

is the only cause of

what is the probability that correctly performing the step

will solve the problem?

110

FIGURE 11

General question editor

120 General question

121 Name: Did you recently perform the user maintenance?

122 States:

Yes	8
No	92

Add State

128 Normalize

126 Explanation

123 Edit costs, ...

124 Extra information

125

126

127 Remove question

Probability changes for causes:

- 5 Temporary problem solvable by cycling power
- 5 Environmental conditions out of spec
- 28 Media out of spec
- 7 Transfer roller
- 13 Transfer roller worn out
- 3 -> 25 Transfer roller improperly seated
- 85 Transfer roller defective / dirty
- 14 Fuser
- 14 Fuser worn out
- 84 Fuser defective / dirty
- 1 -> 15 Fuser seated improperly

Remove change

☐ Question is forced as number: 0

OK Cancel

FIGURE 12

Probability change editor

Probability Change Editor

Question: Did you recently perform the user mail

Cause: Transfer roller improperly seated

State: Yes

Old probability: 2.5

New probability: 25

OK

Cancel

FIGURE 13

FIGURE 14

FIGURE 14

Cause editor for actions and questions

Cost Editor

Step: Perform user maintenance

Time: 25 (minutes) ☐ Idle time?

Risk: High

Money: 0

Insult: 0

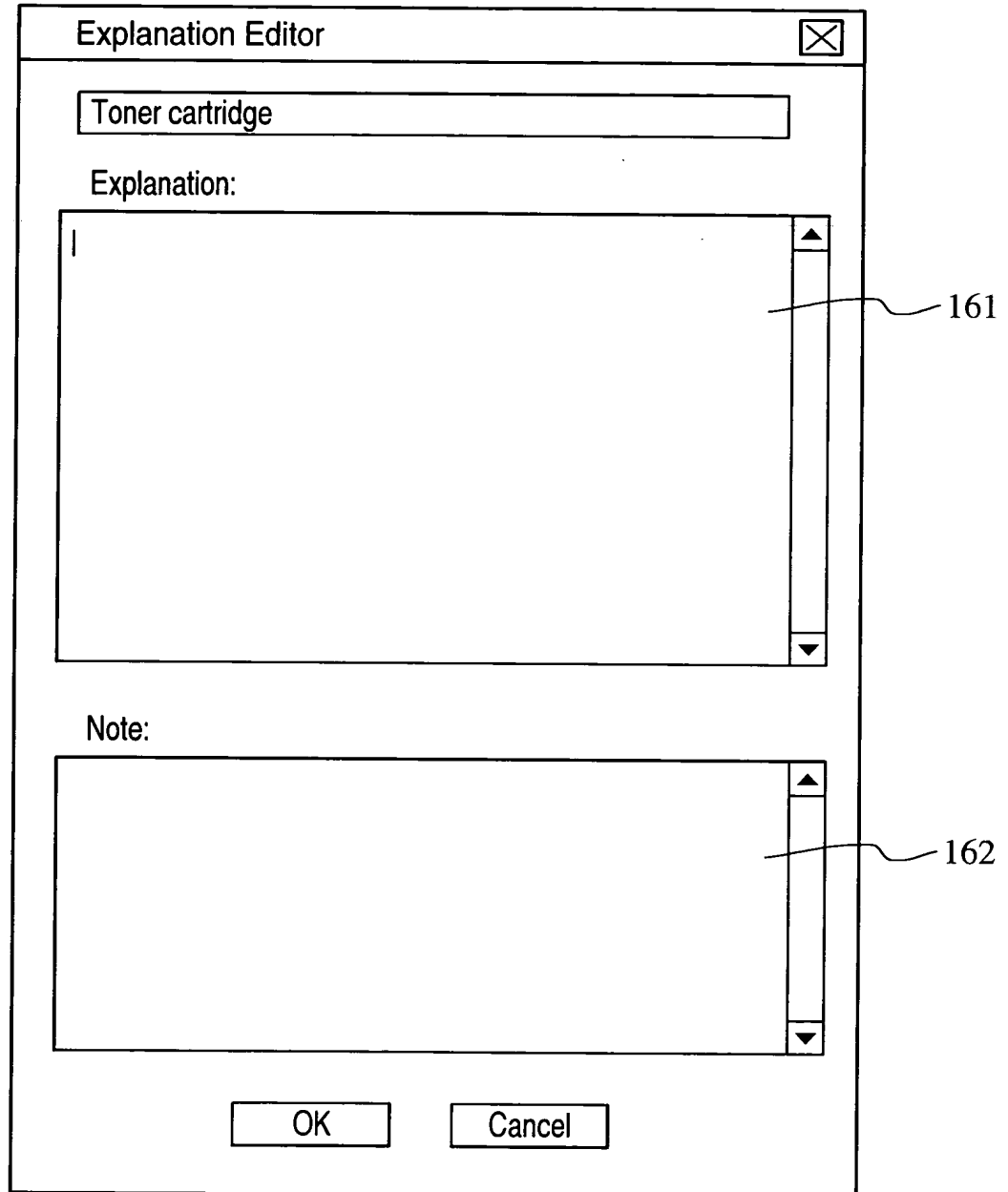
Inaccuracy: Medium

OK Cancel

152 153 154 155 156 157 150 151

FIGURE 15

Explanation editor for causes, actions and questions



The diagram shows a dialog box titled "Explanation Editor" with a close button (X) in the top right corner. Inside the dialog, there is a text input field containing the text "Toner cartridge". Below this field is a label "Explanation:" followed by a large text area with a vertical scrollbar on the right, indicated by reference numeral 161. Below the "Explanation:" section is a label "Note:" followed by another large text area with a vertical scrollbar on the right, indicated by reference numeral 162. At the bottom of the dialog, there are two buttons: "OK" and "Cancel".

Explanation Editor

Toner cartridge

Explanation:

Note:

OK Cancel

161

162

FIGURE 16